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Name: .....

DARUL HUDA EXAMINATION BOARD
ANNUAL EXAMINATION - FEBRUARY 2025
SECONDARY SECOND YEAR (II)

Time: 2hr(s) **MATHEMATICS** **Marks: 70**

Fill in the blanks (any five of the following) **5×2=10**

1. Numerators of fractions with denominator 100 are.....
2. The distance around a circular region is known as its.....
3. The money you borrow is known as sum borrowed or .....
4. A number which can be written in the form $\frac{p}{q}$ and q ≠ 0 is called a.....
5. The number ..... is neither a positive nor a negative rational number
6. The approximate value of π is ..... or .....
7. Algebraic expressions are formed from ..... and .....

Multiple choice questions (any six) **6×1=6**

8. Area of a parallelogram ....

   a. length × breadth b. base × height c. side × side d. $\frac{1}{2}$ (base × height)

9. The corners of a solid shape are called ....

   a. edges b. vertices c. sides d. faces

10. Out of 25 children in a class,15 are girls. What is the percentage of girls?

    a. 60% b. 45% c.65% d. 70%

11. $a^m \times a^n =$

    a. a^{mn} b. $\left(\frac{a}{b}\right)^m$ c. a^{m+n} d. a^{m-n}

12. $-ab + 2b^2 - 3a^2$

    a. Monomial b. Binomial c. Trinomial d. Polynomial

13. $\frac{1}{4}$ as percent is

    a. 20% b. 25% c. 50% d. 75%

14. The circumference of a circle of radius r is

    a. πr b. 2πr c. πr^2 d. πr^3

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Answer any six of the following **6×4=24**

15. Convert the given decimals to per cents

    a. 0.75 b. 0.09 c. 0.2 d. 0.05

16. Rahul bought a sweater and saved ₹200 when a discount of 25% was given. What was the price of the sweater before the discount?

17. Reduce to standard form

    a. $\frac{36}{-24}$ b. $\frac{-3}{-15}$

18. The radius of a circular pipe is 10 cm. What length of a tape is required to wrap once around the pipe ($\pi = 3.14$)?

19. Identify the terms and their factors in the following expression. Show the terms and factors by tree diagram a. $-ab + 2b^2 - 3a^2$

20. Using laws of exponents, simplify and write the answer in exponential form

    a. $6^{15} \div 6^{10}$ b. $(3^0 + 2^0) \times 5^0$

21. Write two examples for each plane figures and solid shapes

22. If the length and breadth of a rectangle are 36cm and 24cm respectively. Find

    a. Perimeter b. Area of rectangle

Answer any five of the following **5×6=30**

23. Find the amount to be paid at the end of 3 years in each case:

    (a) Principal = ₹ 1,200 at 12% p.a.

    (b) Principal = ₹ 7,500 at 5% p.a.

24. If ₹ 250 is to be divided amongst Ravi, Raju and Roy, so that Ravi gets two parts, Raju three parts and Roy five parts. How much money will each get? What will it be in percentages?

25. Do as directed

    a. $\frac{-7}{5} + \frac{-2}{3}$ b. $\frac{2}{7} - \frac{-5}{6}$ c. $\frac{-7}{12} \div \frac{-2}{13}$

26. Shazli took a wire of length 44 cm and bent it into the shape of a circle. Find the radius of that circle. Also find its area. If the same wire is bent into the

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shape of a square, what will be the length of each of its sides? Which figure encloses more area, the circle or the square? (Take $\pi = \frac{22}{7}$)

27. If a = 2, b = – 2, find the value of:

a. $a^2 + b^2$ b. $a^2 + ab + b^2$ c. $a^2 - b^2$

28. Simplify and express each of the following in exponential form:

a. $\frac{2^3 \times 3^4 \times 4}{3 \times 32}$ b. $\frac{3 \times 7^2 \times 11^8}{21 \times 11^3}$

29. A circle of radius 2 cm is cut out from a square piece of an aluminium sheet of side6 cm. What is the area of the leftover aluminium sheet? (Take $\pi = 3.14$)